Attorney Docket No.: 3655/0303PUS1 PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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| Applicant(s): George W. ERHART et al. | Conf. No.: 3849 |
| Application No.: 10/674,562 | Art Unit: 2614 |
| Filed: September 30, 2003 | Examiner: DEANE, W. J. Jr. |
| Title: ESTIMATION OF EXPECTED VALUE FOR REMAINING WORK TIME FOR CONTACT CENTER EMPLOYEES | |

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

APPLICANT'S APPEAL BRIEF

Dear Sir:

A Notice of Appeal was filed in the above application on February 16, 2010, with a Request for Pre-Appeal Brief Review. A Notice of Panel Decision from Pre-Appeal Brief Review dated April 23, 2010, indicated that at least one actual issue for appeal was found to exist and that the application should proceed to the Board of Patent Appeals and Interferences. Applicant is filing this Appeal Brief within one month of the date of the Notice of Panel Decision together with the required fee.

## I. REAL PARTY IN INTEREST

The real party in interest in the above-captioned application is Avaya, Inc. as shown by the assignment recorded at patent Reel 021156, Frame 0082 on June 26, 2008.

## II. RELATED APPEALS AND INTERFERENCES

There are no prior or pending appeals, interferences or judicial proceedings

known to appellant, the appellant's legal representatives or assignee which may be related to, directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

III. STATUS OF CLAIMS[1]

Claims 1, 4-6, 8-11, 14 and 16-27 are pending in this application.

Claims 1, 4-6, 8-11, 14 and 16-18 are allowed.

Claims 2, 3, 7, 12 and 15 are cancelled.

Claim 27 is objected to.

Claims 19-26 are rejected, and the rejection of claims 19-26 is being appealed.

IV. STATUS OF AMENDMENTS

No amendments after final rejection were filed.

V. SUMMARY OF CLAIMED SUBJECT MATTER

Claim 19 recites a method of estimating the time remaining on a service call (page 2, lines 27-29) for use in a call management system which interconnects a customer who is using a communication device with one of a plurality of customer agents, this interconnection thereby establishing the service call. The method includes defining a plurality of service calls phases (page 6, lines 7-19), performing automated speech recognition on a conversation between the customer and one of the plurality of customer agents (page 2, lines 29-31; page 6, lines 25-31), determining the phase of

[1] The following claim status is based on the final Office Action. The Notice of Panel Decision indicates that all pending claims, including previously allowed claims, are rejected. During a telephone call on May 21, 2010, the examiner confirmed that the claim status as indicated in the final Office Action is correct.

the service call based on the outcome of the automated speech recognition step (page 6, lines 11-19; page 7, lines 20-28), and estimating the time remaining on the service call based on the phase of the call (page 6, lines 11-19).

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Whether claims 19-26 are properly rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,804,346 to Mewhinney (hereinafter, "Mewhinney") in view of U.S. Patent No. 5,854,832 to Dezonno (hereinafter, "Dezonno"), and further in view of "the instant application."

VII. ARGUMENT

Claim 19

Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mewhinney in view of Dezonno and further in view of "the instant application." Claim 19 recites a method of estimating the time remaining on a service call for use in a call management system which interconnects a customer, who is using a communication device, with one of a plurality of customer agents. The method includes defining a plurality of service call phases, performing automated speech recognition on a conversation between the customer and one of the plurality of customer agents, determining the phase of the service call based on the outcome of said automated speech recognition step and estimating the time remaining on the service call based on the phase of the call.

Mewhinney does not teach at least performing automated speech recognition on

a conversation between a customer and one of a plurality of customer agents or determining a phase of a service call based on the outcome of an automated speech recognition step. Instead, Mewhinney determines the stage of a call from an explicit input from an agent (column 8, lines 4-7) or from the navigational commands input by the agent (column 8, lines 14-20), or based on the text that is being presented on a screen to the agent (column 6, line 61 to column 7, line 13). The examiner, however, asserts that because the general concept of automated speech recognition is known, it would have been obvious to modify Mewhinney to meet the limitations of claim 19.

The examiner indicates that in Mewhinney, "it appears that a human agent sends a command to the predictive controller upon detect a word or understanding that a new phase is about to begin." He then indicates that a "speech recognition device can do the same as is old in the art and shown by applicants own application (page 7, 1st paragraph)." It is respectfully submitted that page 7, 1st paragraph, of the present application is part of the detailed description section of the application and is not prior art. To the extent the claim rejections are based on embodiments of the present invention, they are respectfully traversed.

Applicant acknowledges that speech recognition is known. However, there is no prior art of record that suggests a speech recognition system will "understand that a new phase [of a call] is about to begin" as stated in the Office Action. The examiner indicates that using speech recognition to detect call phases is "old in the art," but no prior art to support this assertion is identified. By "old in the art" the examiner might be suggesting this feature is "well-known in the art" and might be attempting to take Official Notice of how predictive dialers determine call phases. It is respectfully submitted that

the operation of predictive dialers is not the type of fact that is capable of "instant and unquestionable demonstration as being true" as is required by MPEP 2144.03 in order to support reliance on Official Notice. To the extent the rejection is based on Official Notice of the operation of predictive dialers, it is also respectfully traversed.

The examiner also asserts that, instead of using a keyboard to indicate the phase of a call, an agent should speak some phrase each time the phase of the call changes and that an automatic speech recognition system would then determine the call phase from the agent's speech. The examiner seems to be proposing that while the agent is making a sales pitch, for example, the agent would periodically utter phrases such as "greeting phase" or "discussion phase." Thus, the agent might say: "I'm glad you like our product and I'd like to get your name and address closing phase," which would presumably be confusing to customers and interfere with sales. One of ordinary skill in the relevant art would have no reason to modify Mewhinney in this manner. Any such modification would either change the principle of operation of Mewhinney or render Mewhinney unsatisfactory for its intended purpose, and MPEP 2143.01 provides that these types of modification are never obvious.

The examiner might be proposing to let the agent mute a call and then speak a phrase such as "closing phrase" to a voice recognition system instead of using a keyboard. However, in that case, the action "performing automated speech recognition on a conversation between the customer and one of the plurality of customer agents would not be satisfied. Statements that a customer can't hear are not part of a conversation between the customer and an agent as required by claim 19. Under this interpretation as well, claim 19 is allowable over Mewhinney.

The examiner also indicates that "it would have been obvious ... to substitute a human agent with a speech recognition device as this is the norm in the art." The evidence provided by the examiner to support this assertion is the following single sentence from Mewhinney: "In other forms, the telecommunication device comprises an interactive voice response system." This sentence, using the open-ended term "comprises" appears to indicate that Mewhinney's invention can be used with or might include an interactive voice response system. This single sentence does not support a conclusion that a human agent can be replaced with an interactive voice response system, and does not support all the modifications to Mewhinney that are being proposed in order to reject claim 19.

The rejection of claim 19 is based in part on Dezonno, but Dezonno is not discussed in connection with any limitation of claim 19. Dezonno does not teach automated speech recognition and does not suggest any modification to Mewhinney that would produce the invention of claim 19. For the foregoing reasons, claim 19 is submitted to patentably distinguish over Mewhinney, Dezonno and the "instant application," and the allowance of claim 19 is respectfully requested.

Claims 20-22

Claims 20-22 depend from claim 19 and are submitted to be allowable for at least the same reasons as claim 19.

Claim 23

Claim 23 recites that estimating the time remaining on a service call includes

recognizing a level of disfluency of speech of the customer and adjusting the estimated time remaining on the service call based on the level of disfluency. The examiner indicates that the limitations of the claim are "well-known" from the instant application. It is respectfully submitted that the portion of the "instant application" being relied upon is one of the disclosed embodiments of the invention and does not constitute prior art. Devices for recognizing disfluency are known. However, nothing in the record suggests that such devices can or should be used for estimating the time remaining on a service call. Claim 23 further distinguishes over the art of record for this reason.

Claim 24

Claim 24 recites that estimating the time remaining on the service call includes determining a speaking rate of the customer and estimating the time remaining on the service call based on the speaking rate. The examiner indicates that the limitations of the claim are "well-known" from the instant application. It is respectfully submitted that the portion of the "instant application" being relied upon is one of the disclosed embodiments of the invention and does not constitute prior art. Devices for determining speaking rate are known. However, nothing in the record suggests that such devices can or should be used for estimating the time remaining on a service call. Claim 24 further distinguishes over the art of record for this reason.

Claim 25

Claim 25 recites that estimating the time remaining on the service call includes categorizing the verbosity of the customer and estimating the time remaining on the

service call based on the verbosity. Nothing in the record suggests that "categorizing the verbosity of a customer" is known, much less that the time remaining on a service call should be estimated from such verbosity. Claim 25 further distinguishes over the art of record for this reason.

Claim 26

Claim 26 further recites that estimating the time remaining on the service call includes categorizing the accent of the customer and estimating the time remaining on the service call based on the accent. The examiner indicates that the limitations of the claim are "well-known" from the instant application. It is respectfully submitted that the portion of the "instant application" being relied upon is one of the disclosed embodiments of the invention and does not constitute prior art. Devices for detecting an accent are known. However, nothing in the record suggests that such devices can or should be used for estimating the time remaining on a service call. Claim 26 further distinguishes over the art of record for this reason.

CONCLUSION

Wherefore, reconsideration and allowance of claims 19-26 is earnestly solicited.

Respectfully submitted,

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VIII. CLAIMS APPENDIX

19. A method of estimating the time remaining on a service call, for use in a call management system which interconnects a customer who is using a communication device with one of a plurality of customer agents, the interconnection thereby establishing the service call, said method comprising:

defining a plurality of service calls phases;

performing automated speech recognition on a conversation between the customer and one of the plurality of customer agents;

determining the phase of the service call based on the outcome of said automated speech recognition step; and

estimating the time remaining on the service call based on the phase of the call.

20. The method of claim 19 wherein estimating the time remaining on the service call includes estimating the time remaining on the service call based on an expected length of the determined phase.

21. The method of claim 19 wherein estimating the time remaining on the service call includes estimating the time remaining on the service call based on an expected length of the determined phase and on an expected length of any of the defined service call phases expected to occur before the end of the service call.

22. The method of claim 20 wherein estimating the time remaining on the service call includes evaluating the proportion of time the customer speaks relative to time the

agent speaks.

23. The method of claim 20 wherein estimating the time remaining on the service call includes recognizing a level of disfluency of speech of the customer and adjusting the estimated time remaining on the service call based on the level of disfluency.

24. The method of claim 20 wherein estimating the time remaining on the service call includes determining a speaking rate of the customer and estimating the time remaining on the service call based on the speaking rate.

25. The method of claim 20 wherein estimating the time remaining on the service call includes categorizing the verbosity of the customer and estimating the time remaining on the service call based on the verbosity.

26. The method of claim 20 wherein estimating the time remaining on the service call includes categorizing the accent of the customer and estimating the time remaining on the service call based on the accent.

IX. EVIDENCE APPENDIX

(None)

X. RELATED PROCEEDINGS APPENDIX

(None)